

November 2024. A snapshot of the industry

GovTech in Catalonia

GovTech in Catalonia

ACCIÓ
Government of Catalonia



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Carried out by

Strategy and Competitive Intelligence Unit of ACCIÓ
Center for telecommunications and information technology (CTTI)
i2Cat

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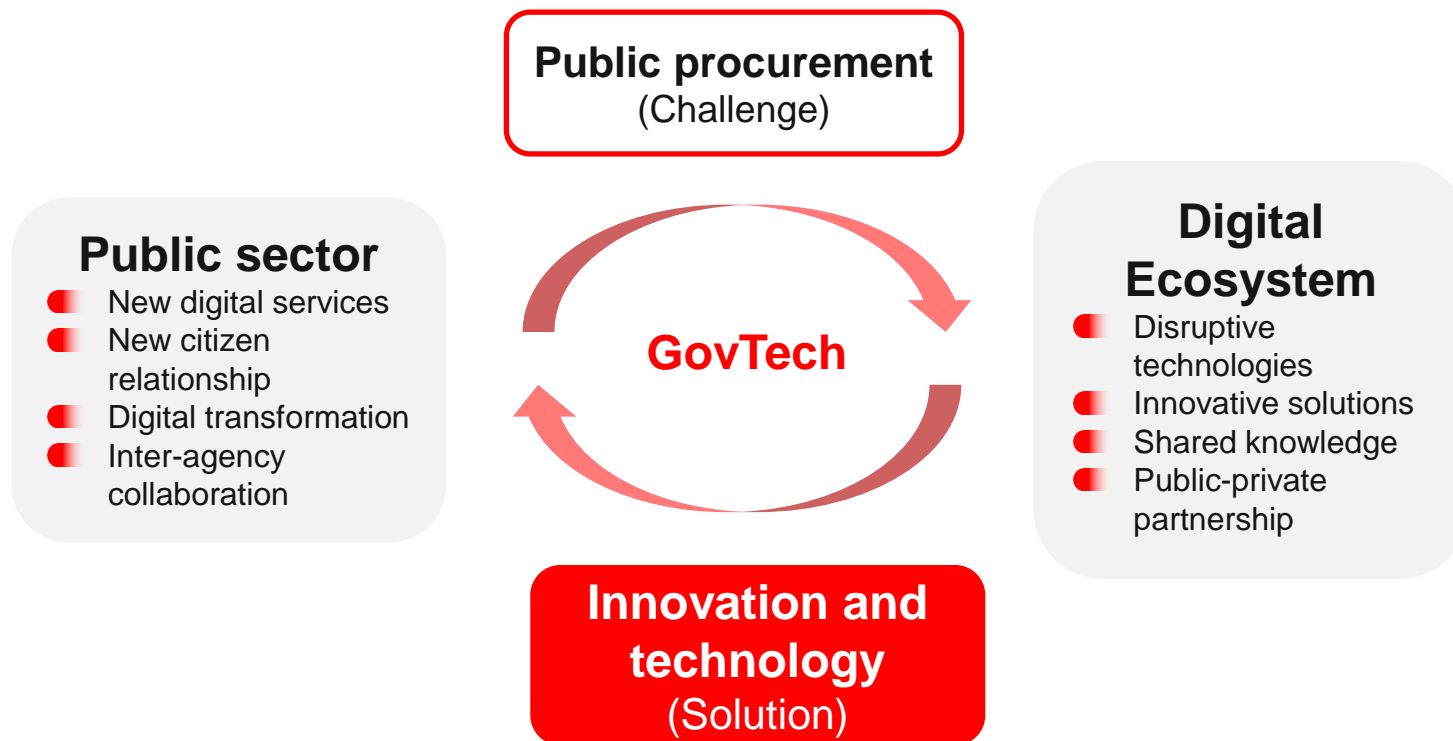
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1. Definition of GovTech and the latest technology on an international scale

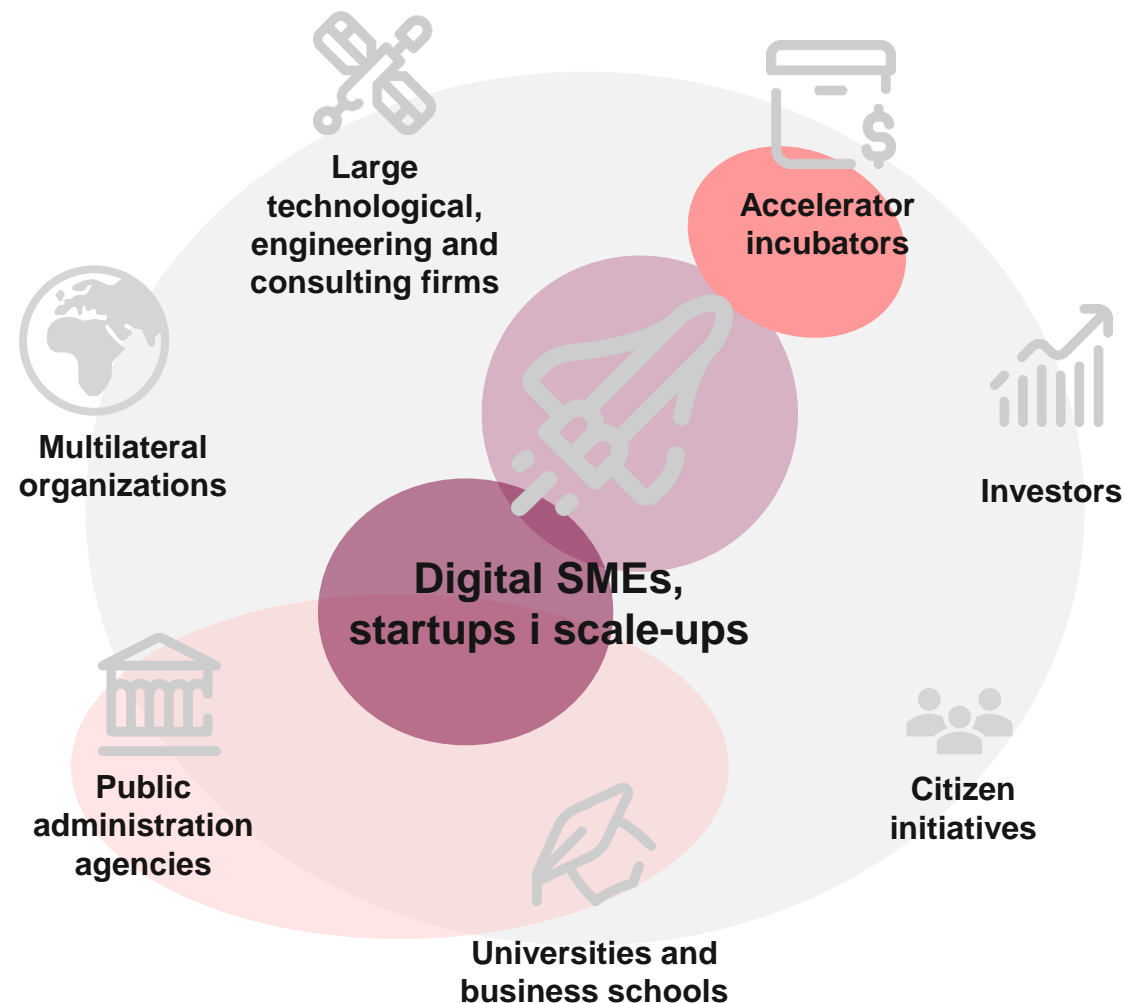
Definition of the GovTech ecosystem (I)



GovTech is an ecosystem in which governments collaborate with the agents of the innovative ecosystem that work with disruptive technologies and innovative methodologies to create new services and products that contribute to resolving public issues and accelerate the digital transformation of government.

Definition of the GovTech ecosystem (II)

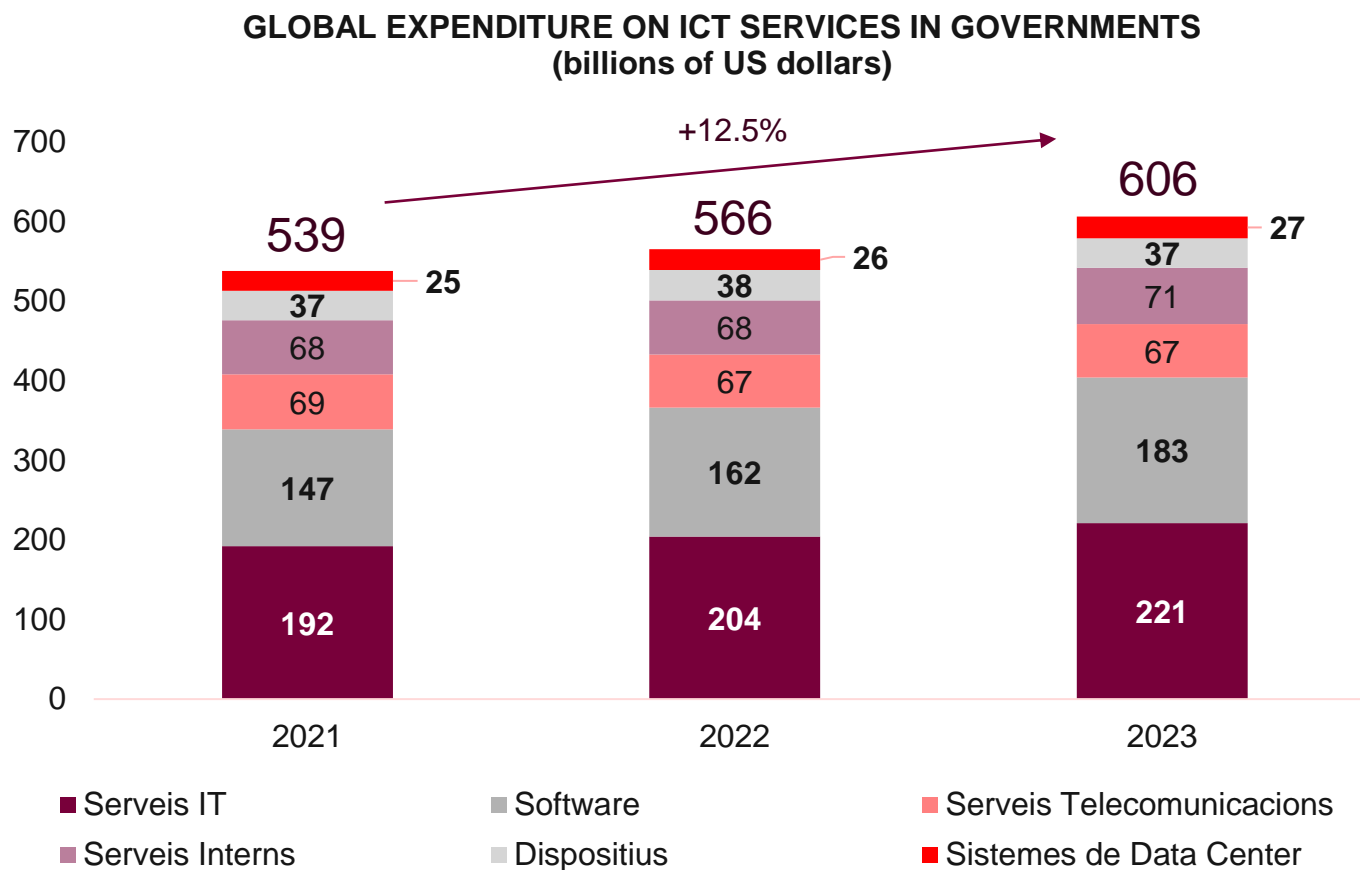
- GovTech focuses on fostering collaboration between public bodies, companies, academia, civil society and other actors to integrate innovative technologies into government processes and public services.
- The core business of the ecosystem is made up of digital SMEs, startups and scale-ups that offer innovative solutions to the market. They are complemented by large corporations, engineering firms and consultancies that provide technological and advisory services.



Source: Zapata, E., Fuentes, P., Grau, G., & Ida, K. (2024), IE Public Tech Lab, Índice GovTech 2024

GovTech on a global scale

The GovTech ecosystem is generating a very significant market on a global scale which already exceeds US\$600 billion and is projected to reach US\$1 trillion by 2025.



Most of this market is controlled by large corporations, but if a percentage of the public demand can be channeled into the innovative startup and SME market, it will create a huge space for innovation, technological development and growth opportunity for the latter.

International governments implement 154 GovTech programs and initiatives to innovate global public service delivery



GovTech Lab Lithuania:

- Founded in 2019 within the Lithuanian Agency for Science, Innovation and Technology; Its mission is to promote innovation in the public sector, acting as a platform for attracting innovative technological solutions through challenge competitions. It has established alliances with institutions such as the Bank of Lithuania, the national energy company, offering solutions in areas such as entrepreneurship, competitiveness and foreign investment.

CitTech Scotland

- Created in 2017 as part of the Scottish Government's Digital Directorate. CitTech Scotland launched and fosters the CivTech Alliance, an international network of civil servants working on public sector innovation. It differs from other commercial accelerators because it guarantees a customer for the products created through the program.

Source: World Bank Document, Founders Intelligence

2. The scope of GovTech in Catalonia

GovTech value chain



Note: In red are the areas included in the GovTech mapping. **Source:** ACCIÓ

GovTech value chain (I)

Startups, scale-ups and SME GovTech

Service provision

Technologies that are aimed at **improving the provision of public services** (health, education, security, mobility, waste management, assistance, emergency services...). The experience is improved **citizenship as the final beneficiary** of this public service.



Operational and intelligent management

Technologies that **are used internally** and are aimed at helping public sector workers to organize themselves better and be more efficient. They also streamline and simplify **the experience of citizens with the Public Administration.**



GovTech value chain (II)

Startups, scale-ups and SME GovTech

Digital infrastructure

Refers to the set of hardware elements that **support operations** for all digital services. It also refers to software and the new technologies that **do not explicitly make the work of the public administration staff - and those who maintain all the digital infrastructure - more efficient.**



Democratic quality

Technologies that are aimed at **strengthening and improving the democratic system**, while making it more transparent and participatory. They allow the Administration to respond more easily to citizens' needs.

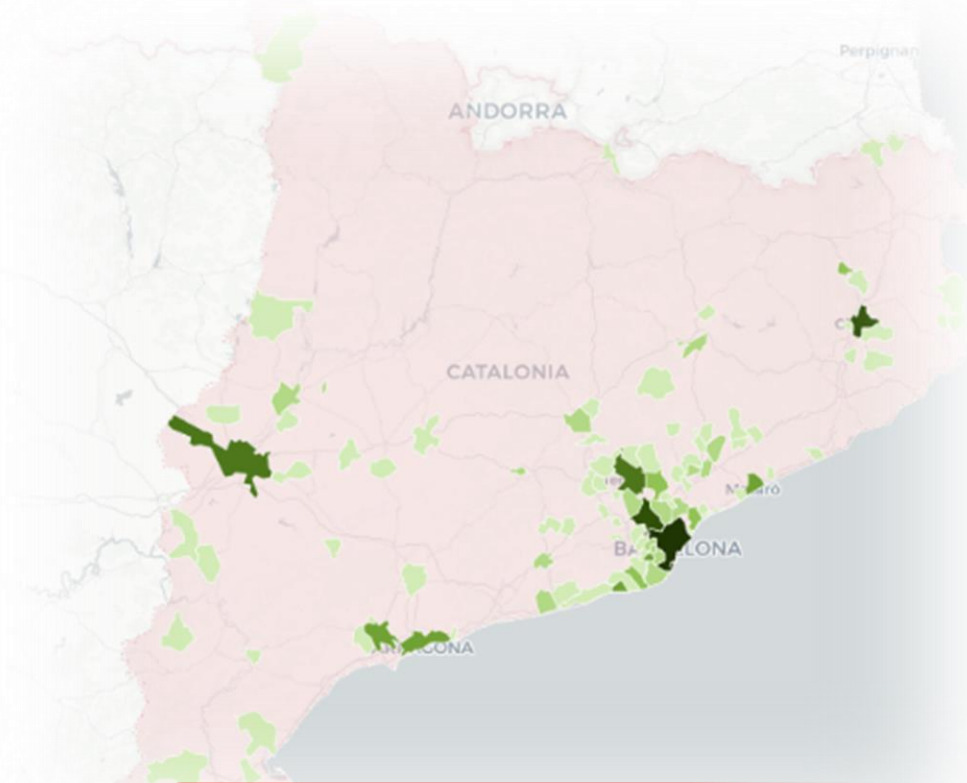


Quantification of the total volume of the GovTech scope

350
companies

€217 M
2023 GovTech
turnover

2,196
2023 GovTech
jobs created



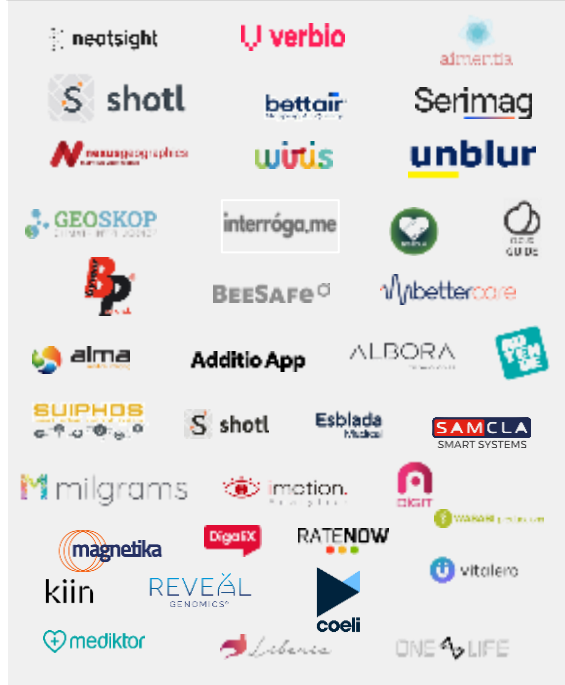
53.7% of the companies are
located in the city of Barcelona

Note: The economic data correspond to the last available year, mostly 2023. Source: ACCIÓ, based on ORBIS

GovTech firm mapping



**Service provision
(27%)**



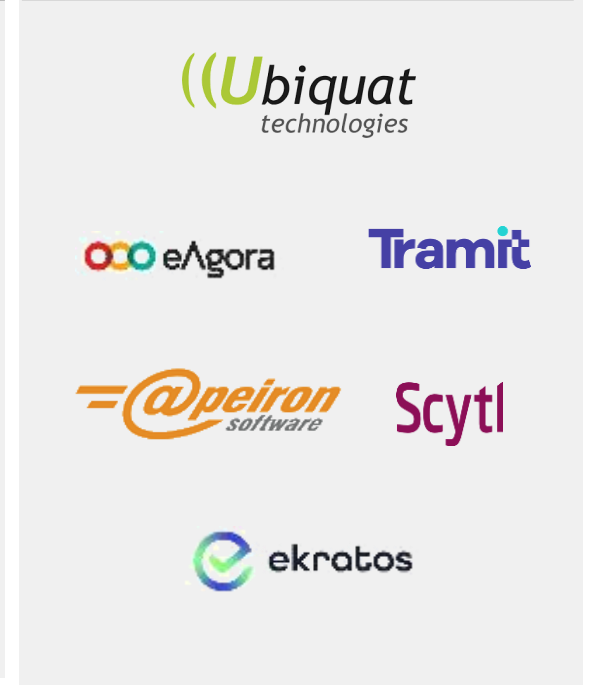
**Operational and
intelligent management
(40%)**



**Digital infrastructure
(32%)**

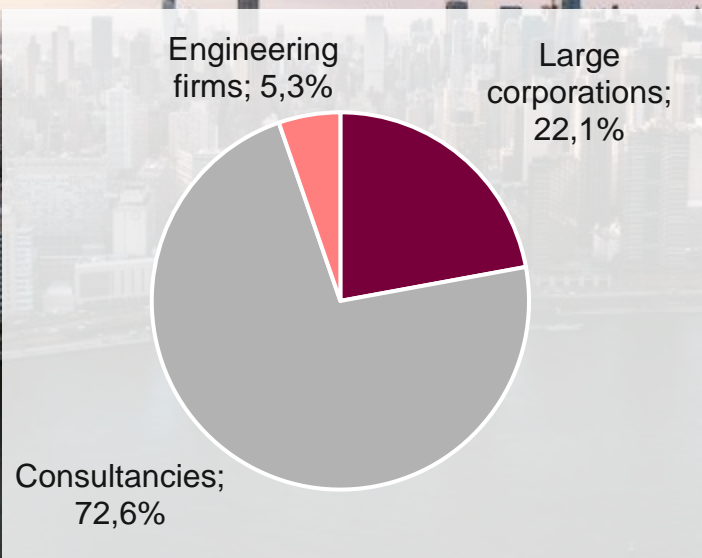


**Democratic quality
(1%)**



More than 200 integrator companies complete the GovTech sector in Catalonia

Integrators complete the ecosystem with more than **€140M** and **560 workers** related to the GovTech field



LARGE CORPORATIONS

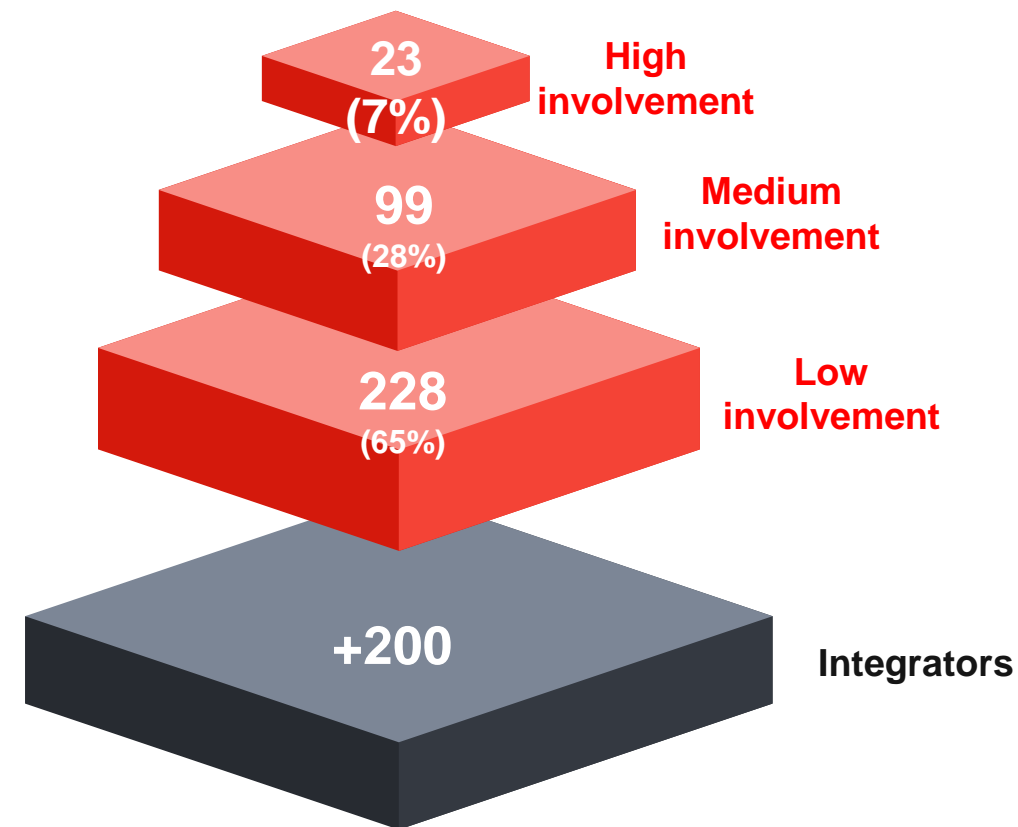
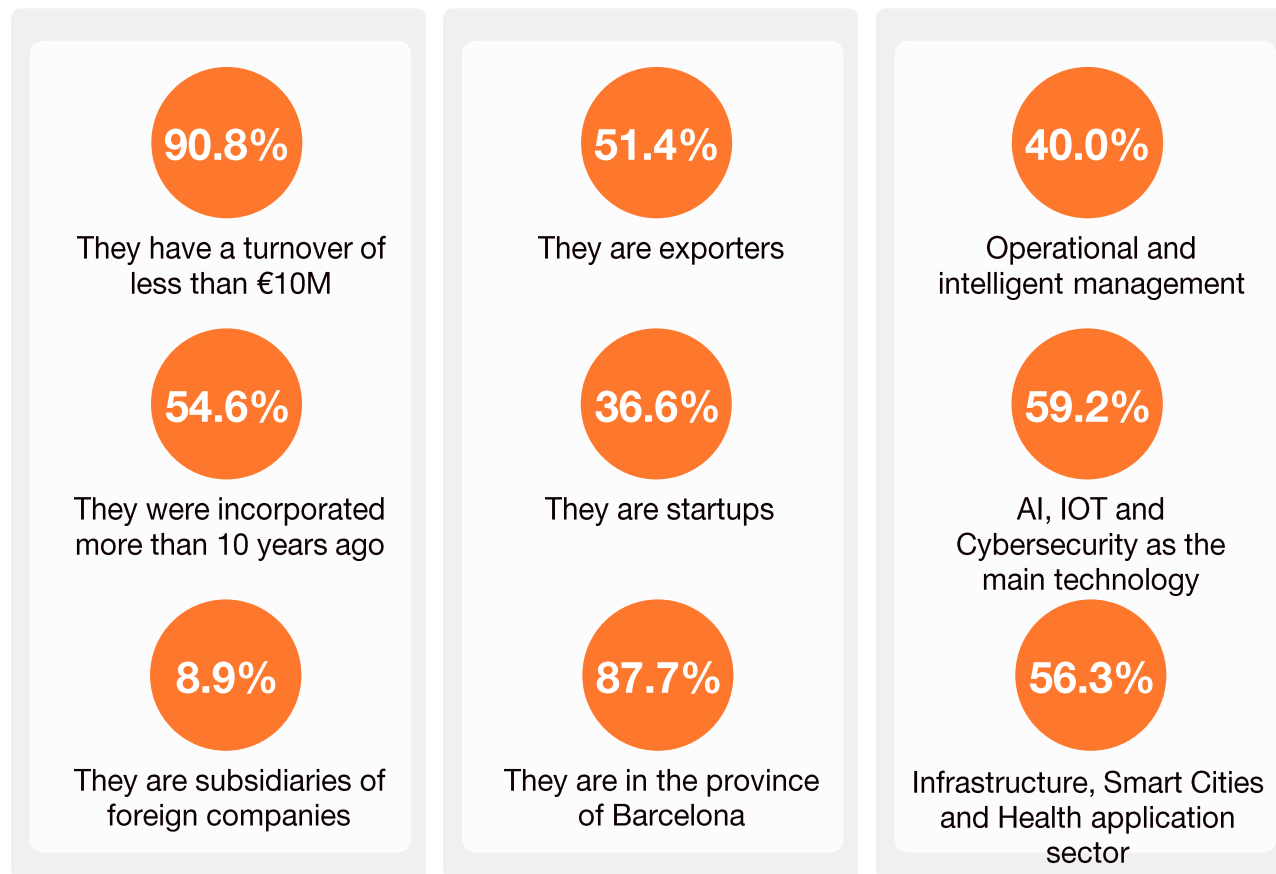
ENGINEERING

CONSULTING FIRMS

Note: Partial representation with the aim of illustrating the ecosystem of the GovTech sector in Catalonia. Source: ACCIÓ

Characterisation of GovTech firms in Catalonia

350 companies



Source: ACCIÓ

Value chain: Service provision

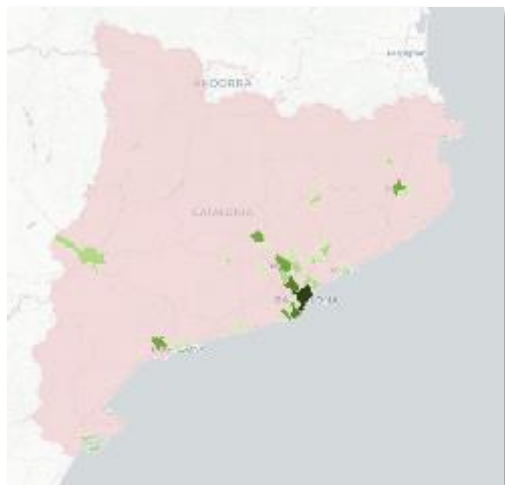
27% of the total number of firms

Technologies:

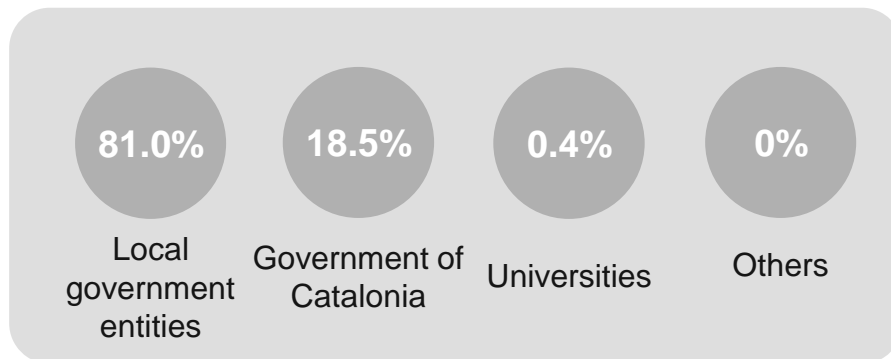
- Immersive technologies (24.2%)
- AI, Big Data and Robotics (23.2%)
- Digital Health (17.9%)
- IOT (16.8%)
- Cloud & Edge Computing (9.5%)

Sectors of application:

- Health and social services (27.3%)
- Sports, Culture and Audiovisual (15.2%)
- Smart Cities (12.1%)
- Public administration - Cross-cutting (11.4%)
- Education (10.6%)



Public sector procurement



Main corporations



Main institutions



Value chain: Operational and intelligent management

40% of the total number of firms

Technologies:

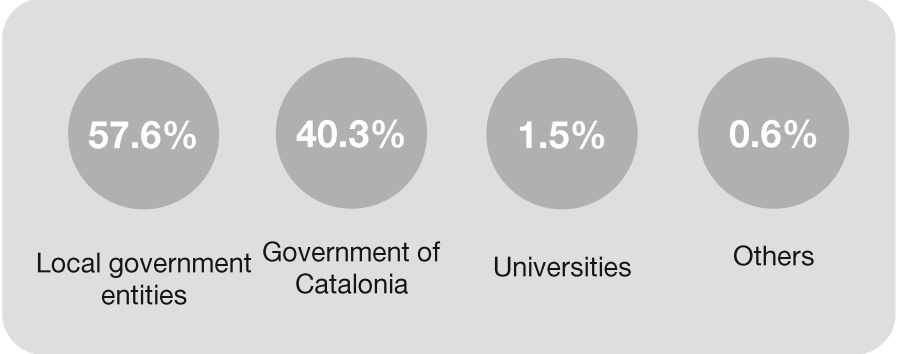
- AI, Big Data and Robotics (41.4%)
- IOT (16.4%)
- Drones (9.3%)
- Cloud & Edge Computing (9.3%)
- Cybersecurity (6,4%)

Sectors of application:

- Public administration - Cross-cutting (23.7%)
- Smart Cities (14.4%)
- Sustainability and environment (12.6%)
- Mobility and transport (10.7%)
- Agriculture and Industry (10.2%)



Public sector procurement



Note: Partial representation with the aim of illustrating the ecosystem of the GovTech sector in Catalonia. Source: ACCIÓ

Value chain: Digital infrastructure

32% of the total number of firms

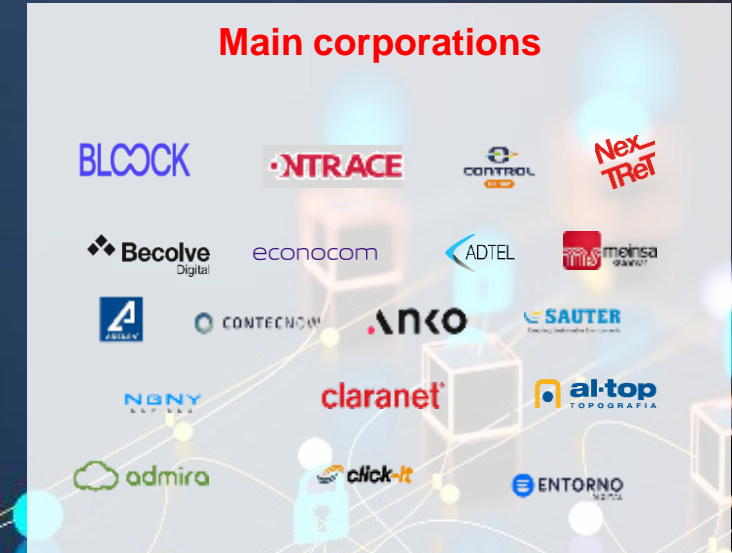
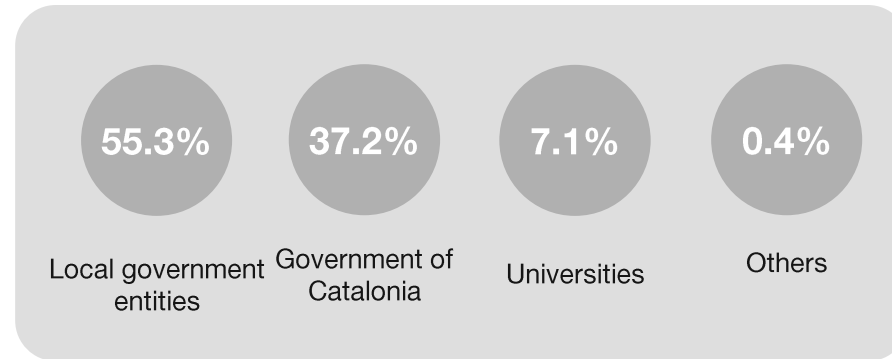
Technologies:

- Cybersecurity (34.2%)
- Cloud & Edge Computing (19.8%)
- AI, Big Data and Robotics (14.4%)
- IOT (14.4%)
- Immersive technologies (3.6%)

Sectors of application:

- Infrastructure and supplies (43.4%)
- Public administration - Cross-cutting (21.3%)
- Smart Cities (8.8%)
- Sustainability and environment (6.6%)
- Agriculture and Industry (6.6%)

Public sector procurement



Note: Partial representation with the aim of illustrating the ecosystem of the GovTech sector in Catalonia. Source: ACCIÓ

Value chain: Democratic quality

1% of the total number of firms

Technologies:

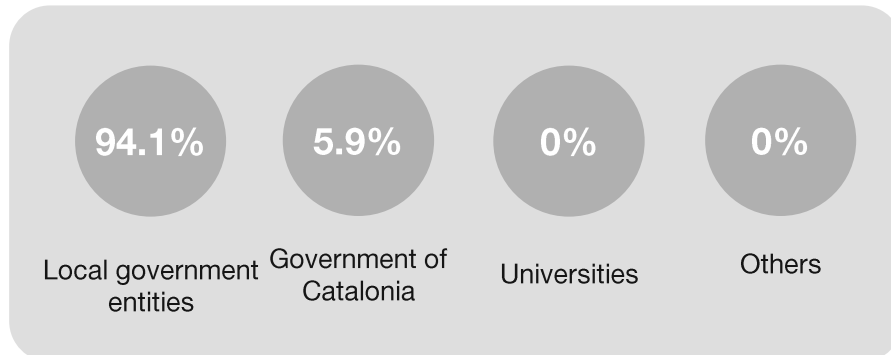
- Blockchain (50%)
- AI, Big Data and Robotics (25%)
- Cloud / Edge computing (25%)

Sectors of application:

- Infrastructure and supplies (75%)
- Public administration - Cross-cutting (25%)



Public sector procurement



Main corporations



Main institutions



More than 700 Catalan public institutions have sought GovTech solutions to digitalize the Public Administration in the last five years



536 Local Government Entities

155 Departments and public sector of the Government of Catalonia

15 Universities

Note: Partial representation with the aim of illustrating the ecosystem of the GovTech sector in Catalonia. Source: ACCIÓ

Catalan ecosystem of the GovTech industry

Public Administration



Accelerators and incubators



Fairs, congresses and communities



Agents for change



Academy and research centers

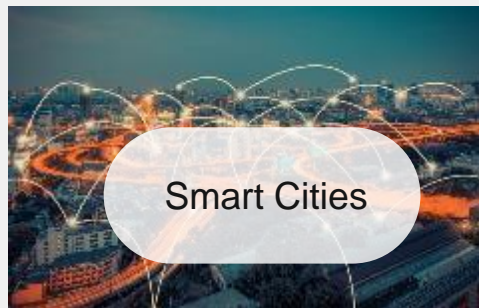
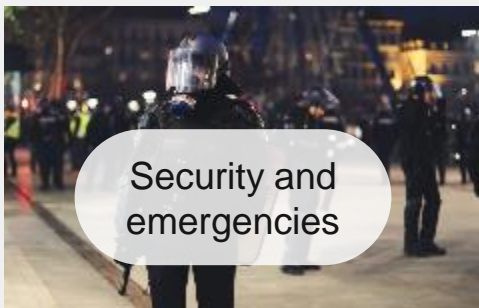


GovTech Catalonia was founded with the aim of evolving the digital innovation model of the Government of Catalonia to promote the transformation of the Catalan public administration by creating a collaboration platform between the public sector and the actors of the country's digital ecosystem.

Note: Partial representation with the aim of illustrating the ecosystem of the GovTech sector in Catalonia. Source: Catalonia GovTechProgram

3. Sectors of application of GovTech solutions

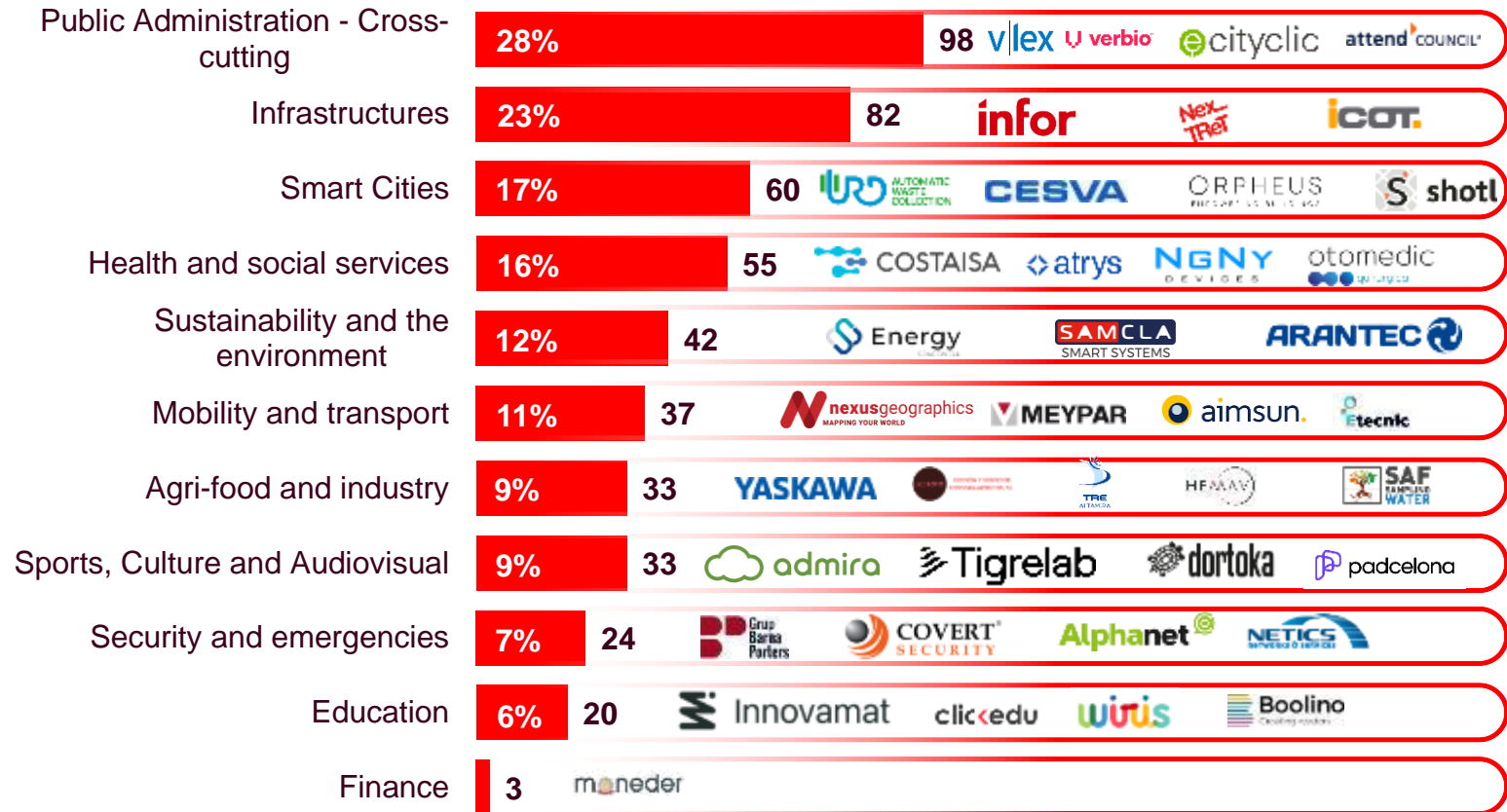
Catalan companies design solutions for numerous sectors



28% of companies offer solutions for the Public Administration across the whole spectrum



Companies by application sector (absolute values)



Note: Partial representation with the aim of illustrating the ecosystem of the GovTech sector in Catalonia. Source: ACCIÓ

4. Innovative solutions for the future of the Public Administration

The new technologies will allow the Administration to face its challenges more efficiently

Challenges for the public sector

Modernization of public services provision

Simplification of the Public Administration-citizen relationship

Optimization of public tender terms and conditions

Improving the efficiency of public workers

Fostering the digital skills of public workers

Acceleration of response time to citizens

Care and protection of stored data

Update of technological and digital systems

Promotion and strengthening of democracy

Digitalization and investment in innovative technological solutions will enable governments to successfully face the challenges they face



Source: ACCIÓ

The technologies that will set the course for GovTech



5G



Blockchain



Cybersecurity



Cloud & Edge Computing



Drones



AI Big Data and robotics



Internet of Things (IoT)



New Space

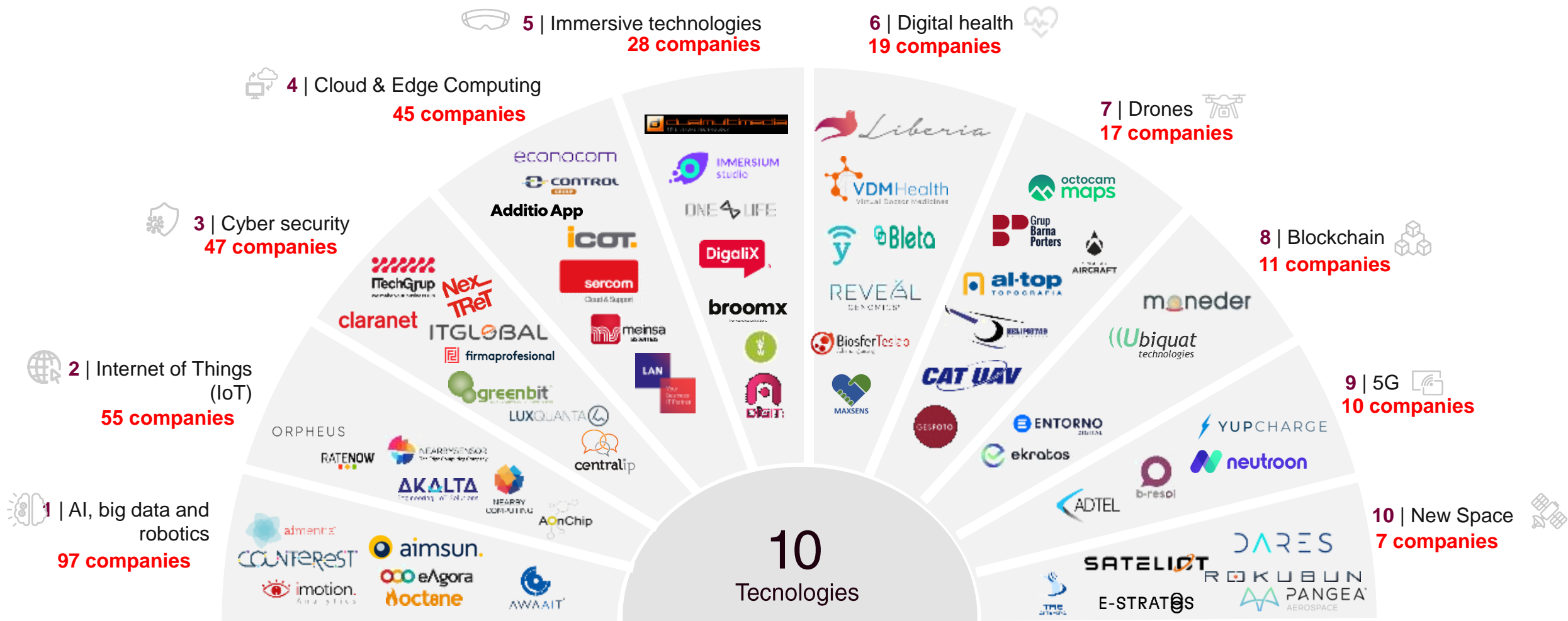


Digital health



Immersive technologies

AI technologies, big data and robotics, IoT and cyber security together account for 59.2% of the total number of companies



Note: Partial representation with the aim of illustrating the ecosystem of the GovTech sector in Catalonia. Source: ACCIÓ

5. Success stories

AI model for melanoma diagnosis



Promoters



T Systems



Sector Health

Enabling

Artificial Intelligence



Catalonia



Challenge

Melanoma is a disease with a high incidence and serious consequences in cases of late diagnosis. Although dermatologists have led efforts in early detection, the increase in the number of cases and the need for faster detection highlight the need to seek complementary solutions.



Objective(s)

Develop and optimize an artificial intelligence (AI) system that, through the use of dermoscopic images, is able to detect and classify melanoma and other skin lesions with high accuracy, with the aim of improving prognosis and intervention therapy in diagnosed patients.

Technological solution

- Identify and collect datasets and published models for skin spot detection and classification, including already trained models.
- Carry out a comparative study of the available models to identify the most suitable one for local needs.
- Adapt the selected model to the characteristics of melanoma in Catalonia, ensuring that it is able to detect and classify spots and marks.
- Implement the adapted model in a pilot test in primary care, which will allow doctors to receive immediate recommendations and send the collected information to specialists for further evaluations.
- Integrate the information collected in the health system to facilitate future studies.

Public value and generated impact

The project provides significant public value by improving early diagnosis, which can reduce mortality and healthcare costs associated with advanced treatments. The following benefits are highlighted:

- Improved accuracy in diagnosis
- Early detection of skin cancer
- Improvement in the efficiency of references
- Reduces the workload of dermatologists
- Continuous training for primary care doctors
- Improvement in patient care and experience

Source: Catalonia GovTechProgram

Interface to promote relational autonomy and social inclusion of people with different abilities



Promoters



Sector

Health and social services

Enabling

IoT



Mollerussa



Challenge

Bring new transformative digital solutions to the foundations of the local council that work with people with functional diversity to improve their quality of life and ability to relate to other people.



Objective(s)

Reduce isolation and promote the emotional well-being and communication of older people, while encouraging participation in activities in different fields.

Technological solution

A platform that is installed in the rooms of the ACUDAM Residence, or in the home itself, through which users can connect and chat with family and friends, as well as participate in sports, cultural activities and online leisure.

A personalized follow-up will be carried out through interviews with the participants to assess their degree of satisfaction. The pilot is in a first phase in which it will be established what functionality and design the interface must have and then install the screens in the rooms so that users can interact with them, initially with support and later without.

Public value and generated impact

Of the nine people participating in the pilot experience, five live in the ACUDAM Nursing Home and four in their own homes. All of them have a diagnosis of moderate or mild intellectual disability, they are between the ages of 48 and 77 and they find it difficult to access the digital world. This project therefore improves the quality of life and social inclusion of people with intellectual disabilities through the use of technology, facilitating their participation in online activities and promoting their relational autonomy.

Source: Catalonia GovTechProgram

AI4Justice



Promoters



Generalitat de Catalunya
Departament de Justícia,
Drets i Memòria



connectthink Sector Justice

Enabling

Generative Artificial
Intelligence



Catalonia



Challenge

Many judgments are similar, and to prepare them it is standard practice to copy excerpts of previous judgments (case law and precedent). The method is manual and slow.



Objective(s)

Apply Generative Artificial Intelligence to search for data among the case law in order to prepare a draft in less time.

Technological solution

The proposed solution improves court workflows through modules that optimize legal processes such as document retrieval and legal system data analysis using vectorization and Knowledge Graphs. This improves the explanatory power of language model results and reduces misinformation. The system ranks case law and tailors suggestions based on judges' past interactions, ensuring personalization and respect. In addition, future developments such as clustering of documents and predictive modeling will improve legal research and decision-making, ensuring effective integration of knowledge and paving the way for future advancements.

Public value and generated impact

Currently, there are no automatic tools that speed up the time it takes to draft a court judgment. Hence, the solution makes it possible to shorten the time it takes to draft a judgment to improve the current perception of slow justice. Judges will be able to have more time to carry out tasks of greater added value.

Source: Catalonia GovTechProgram



Thank you!

Passeig de Gràcia, 109
08008 Barcelona

accio.gencat.cat
catalonia.com

 @accio_cat
@Catalonia_TI

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